

ZIMKIN, Ye.A.; GARANIHA, Ye.Ye.

Photosensitive components of gelatine. Part 2: Effect of cations
on the ripening of photographic emulsions. Zhur.nauch. i prikl.
fot. i kin. 4 no.2:116-120 Mr-Apr '59. (MIRA 12:4)

1. Kazanskiy fotoshelatinovyy zavod.
(Photographic emulsions)

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CIA-RDP86-00513R002065210016-8

ZIMKIN, Ye.A.; PARONIK, S.I.

Protein type impurities in photographic gelatin. Usp.manch.fot.
7:134-136 '60. (MIRA 13:?)
(Gelatin)

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CIA-RDP86-00513R002065210016-8"

E(5)

SOV/77-4-2-6/18

AUTHORS: Zimkin, Ye.A., Garanina, Ye.Ye.

TITLE: The Photographically Active Components of Gelatin (Foto-graficheski aktivnyye komponenty zhelatina)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinemato-grafii, 1959, Vol 4, Nr 2, pp 116-120 (USSR)

ABSTRACT: The authors state that photographic gelatin usually contains a certain amount of mineral constituents (1-2% of the dry product). This is shown in Table 1 which gives an analysis of a mixed sample of batches of gelatin resin from the Kazan' plant. Although almost nothing is known of the photographic influence of gelatin mineral constituents, there is an indication [Ref. 1] that an excess of potassium and sodium ions in the water used to produce photographic emulsions, may cause fogging. The authors then describe experiments made to investigate the photographically active

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The Photographically Active Components of Gelatin

components of gelatin. The gelatin samples were tested by the photographic method, accepted as standard for photographic gelatin [Ref. 2]. The same gelatin was used in the first maturing, the experimental samples being introduced in the second maturing. The experiments were carried out by two methods: 1) by combining the calcium ions in the gelatin itself into a slightly dissociated combination and substituting them with sodium ions; this was done by introducing NaF, Na₂PO₄ and other salts into the gelatin; 2) using gelatin purified of its mineral constituents and introducing combinations with a certain cation into it. Ordinary photographic gelatins were used, part of them purified of mineral constituents by washing in a diluted solution of acetic acid [Ref. 3] or by desalting them by ion-exchangers. In the latter case, on the recommendation of Professor V.A. Klyachko, the gelatin solutions

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were filtered through columns with ion-exchanging resins; wolfrite (vofatit) P was used as a cationite and ON and ED-10 as an anionite. The amount of resin in the purified gelatin did not exceed 0.1% of the dry products, the calcium ions in the resin were kept as sediment. The chemical maturing of the emulsion was accelerated by the use of thiosulphates Mg, Ca and Ba, prepared by the authors and their colleagues, introduced in the amount of $2,5 \cdot 10^{-7} M$ per gram of gelatin. Experiments showed that the speed of the chemical maturing of a photographic emulsion, depends, all other conditions being equal, on the valence of the cations of the mineral constituents of the gelatin. In the presence of two-valence cations the period of maturing up to maximum light-sensitivity is longer than in the case of one-valence cations. It is also assumed that during the second maturing of the emulsion, the cations interact

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The Photographically Active Components of Gelatin

with the intermediate combinations of ions of silver and accelerators of the maturing. There are 5 tables, 3 graphs and 8 references, 7 of which are Soviet and 1 English-language.

ASSOCIATION: Kazanskiy fotozhelatinovyy zavod (The Kazan' Photographic Gelatin Plant)

SUBMITTED: June 17, 1957

Card 4/4

ZIMKIN, Ye. A.

Cand Chem Sci - (diss) "Study of impurities in photographic gelatines." Kazan', 1961. 9 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Kazan' Order of Labor Red Banner State Univ imeni V. I. Ul'yanov-Lenin); 120 copies; price not given; (KL, 6-61 sup, 198)

ZIMKIN, Ye.A.

Commenting on A.L.Karpova's article on the physical and chemical method of the analysis of active impurities in gelatin. Zhur. nauch.i prikl.fot.i kin. 5 no.4:299-301 Jl-Ag '60.

(MIR 13:8)

(Gelatin)

ZIMKIN, YE. A

PAGE 1 BACK EXPANSION	SERIALS
AIASTORY AND NEWS. EDITORIAL TO MEMORY TOGETHER. A HISTORIOGRAPHIC	
EDITORIAL MEMBER. RENEGADE, Vol. 17. Periodical Photographic Characteristics Notes.	
EXPERIMENTAL COLORIMETRIC POLYMERIZATION OF POLY(4-VINYLPHENYL) ACRYLIC ACID. Oligocondensate sensitivity. I. Determinants. Kinetics. Photochemical Oscillations. Oligocondensate multichain growth theory. Review of Photoinduced Sensitization Curvature. Preparation of Haloid-Silane Photographic Layer. Optical Stabilizing Additives. Photoisosteric. Chemical-Photographic Treatment of Photo-Sensitive	
Liquors. Review. 1960, 200 p. Street slip inserted. 1,000 copies printed.	
EDITORIAL BOARD: K. V. CHIKHANOV (Chairman, RA), Corresponding Member, Academy of Sciences USSR; V. V. CHIKHANOV (Secretary, RA); G. S. GOLDBERG, Candidate of Chemical Sciences, Researcher, Institute of Technical Sciences Professor; N. A. LOMAKINA, Candidate of Chemical Sciences; M. I. P. of Publishing House; K. I. BURULAEV; D. N. B. I. O. Director.	
NOTES. This collection of articles is addressed to those working in theoretical and applied photography and cinematography, and to researchers in the closely related arts of physics of photographic processes.	
CONTENTS. The collection contains articles from the editorial files of the journal "Photometry" 1. Estimation methods. 2. Kinematical dimensioning problems in the preparation and processing of hard silver light-sensitive layers. 3. Effects on the photographic sensitivity of the preparation of photographic emulsions and optical theory and technology of the preparation of photographic emulsions and optical sensitization. 4. Stability characteristics of photographic processing of black-and-white and color photographic materials. Many of the articles contain the results of extensive investigations made by the authors. The collection also includes several reviews of current problems in the theory of chemical photo- graphic processes. A bibliography of Soviet and non-Soviet references follows each article.	
VOLUME 17, No. 1. Effect of Preparation and Processing Conditions on Photocolorimetric Layers in Deviations From the Law of Interchange	
M. V. KARPOV, N. A. SH. Effect of Chemical Sensitization on the Sensitivity of Photographic Emulsions at Low Illumination Intensities	
P. T. KARPOV, N. A. SH. and P. T. BILBIRYANTSEVA. Influence of Photocolorimetric Layers in the Chemical Sensitization of Photocolorimetric Black-and-White and Color Photographic Emulsions on Photocolorimetric Emulsions. 2. Influence of Sodium Sulfite on the Photocolorimetric Properties of Emulsions Sensitive with Iron Oxide	
K. V. CHIKHANOV and N. A. SH. Investigation of Effect of Sodium Sulfite on the Photocolorimetric Properties of Emulsions Sensitive with Iron Oxide	
K. V. CHIKHANOV. Change in the Dispersion of Small Grain Emulsions in the Chemical Aging Process	
K. V. CHIKHANOV, N. A. SH. and V. V. CHIKHANOV. Continuous Processes in the Preparation of Photocolorimetric Emulsions	
K. V. CHIKHANOV and V. V. CHIKHANOV. Oligocondensate. Oligocondensate Concentration in the First Stage	
L. V. S. M. Recent Concepts of Gelatin Structure	
K. V. CHIKHANOV and S. S. PERELIK. Alkaline-Type Additives	
L. V. S. M. Modern Concepts of the Physico-Chemical Properties of Gelatin	
L. V. S. M. Photochemical Destabilization of Photocolorimetric Emulsions in Photocolorimetry and V. V. CHIKHANOV. Search for Ways of Improving the Structural Michaelis-Menten Type Photocolorimetric Layers for Success	
L. V. S. M. Techniques of Testing Photocolorimetric Emulsions	
L. V. S. M. Effect of Setting Agents in Materials and During Photocolorimetry	
L. V. S. M. Elementary Composition of Haloid-Silane Photocolorimetic Emulsions	
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ZIMKIN, Ye. A.; SHIMORINA, A.I.

Fatty impurities in photographic gelatin. Zhur.nauch.i prikl.
fot.i kin. 5 no.1:57-58 Ja-F '60. (MIRA 13:5)

1. Filial nauchno-issledovatel'skogo kinofotoinstituta i
Fotozhelatinovyy zavod, Kazan'.
(Gelatin--Analysis)
(Photographic emulsions)

ZIMKIN, YE. A.,
ZIMKIN, Ye. A.; YAFAROVA, R.L.

The minute components of a photographic gelatin. Zhur. nauch. i prikl.
fot. i kin. 2 no. 5:340-343 S-0 '57. (MIRA 10:11)

1. Kazanskiy zhelatinovyy zavod.
(Photographic emulsions)

ZIMKIN, Ye.A.; KLYUCHEVICH, V.F.; DEVYATOV, Ya.B.; P'YANIKOVA, L.N.;
GARAININA, Ye.Ye.

Effect of the methods of gel-tin preparation on its photographic
activity. Zhur. nauch. i prikl. fot. i kin. 10 no.4:247-250
(MIRA 18:7)
J1-Ag '65.

1. Kazanskiy filial Vsesoyuznogo nauchno-issledovatel'skogo kinst-
fotoinstituta i Kazanskiy fotozhelatinovyy zavod.

ZIMKIN, Ye.A.; KLYUCHEVICH, V.P.

Gelatine absorption on silver bromide microcrystals. Zhur.
nauch. i prikl. fot. i kin. 10 no.5:397-399 S-0 '65.
(MIRA 18:9)
1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoin-
stituta, Kazan'.

ZIMKIN, Ye.A.; DEVYATOV, Ya.B.; MAKLAKOV, A.G.

Carbohydrates in collagen and gelatin. Reducing the duration of
liming. Zhur.prikl.khim. 38 no.11:2581-2585 N '65.

(MIRA J8:J2)

1. Kazanskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
kinofotoinstituta i Kazanskiy zhelatinovyj zavod. Submitted
August 15, 1964.

ZIMINA, A. M.

"A. M. Zimina, & A. F. Lebedinsky: Variations of the Mechanism of Pupillary Reaction in Various Species of Animals." Received on March 15, 1945. (p. 305)

SO: Journal of General Biology, Vol. VI, contents of the issues 1-6, for 1945. No. 5

ZIMKINA, A.M.

Institute of Evolutionary Physiology and Pathology, of Higher Nervous Activity, Acad sci
USSR

The ~~fluxx~~ Cerebellum and Sleep

So: Fiziologicheskiy Zhurnal Vol 32, No 2, 1946

ZIMKINA, A. M.

"Contemporary Ideas of the Influence of the Cerebellum on Vegetative and Sensory Functions." (p.345) by Zimkina A. M. (Leningrad.)

SC: Progress of Contemporary Biology (Uspekki Sovremennoi Biologii) 1948, Vol. XXV
No. 3, May - June.

ZIMKINA, A. M.

See Also: ZIMKIN, N. V., and MIKHAILOV, A. A.

"Problem of the variability of motor reflexes," Report 1. N. V. Zimkin, A. M. Zimkina and A. A. Mikhal'son, "Variability of the reflexogenic zones for the reflex of unbending the knee and the reflex of flexure of the foot from the rear," -- Report 2. N. V. Zimkin and A. A. Mikhal'son, "Peculiarities in the course of the knee-jerk reflex when the stimulus is a series of blows in close rhythm," Trudy Fiziol. in-ta Pavlova, Vol. III, 1949, p. 47-81 -- Bibliog: p. 60-61, 81

SO: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 14, 1949).

ZIMKINA, A.M.; ZIMKIN, N.V.; KAPLAN, A.Ye.; KARENINA, A.I.; MIKHAILOV, A.A.

Mobility of some reflex and sensory processes. Trudy fiziol. inst.
4:117-124 '49. (MIRA 9:5)
(REFLEXES) (SENSES AND SENSATION)

ASANOV, B.D.; ZIMKIHA, A.M.; STEPANOV, A.I.

Characteristics of orientation reaction to sound stimuli in
the blind. Fiziol.shur. 41 no.3:314-320 My-Je '55. (MIRA 8:8)

1. Otdel fiziologii Instituta ekspertisy trudosposobnosti i
trudoustroystva invalidov, Leningrad.

(ORIENTATION,

in blind, to sound stimuli)

(BLINDNESS,

orientation reaction in blind to sound stimuli)

ZIMKINA, A. M.

EXCERPTA MEDICA Sec.2 Vol.9/10 Physiology, etc. Oct56

4752. ZIMKINA A. M. Res. Inst. of Rehabil. of Invalids, Leningrad. * Plasticity of the nervous system and physiological mechanisms of compensation of disturbed function in man (Russian text) FIZIOL. 2, 1956, 42/4 (372-381) Illus. 3

In blind persons, conditioned motor reflexes to sound are not different from those in normal subjects, but reactions of the ANS (respiration; peripheral circulation plethysmographically recorded; galvanic skin reflex) are much more pronounced. Change of direction of the sound signal is associated with orientation movements of the head, eyeballs and frequently the arms in blind persons, while in normal individuals such movements are hardly noticeable. Simonson - Minneapolis, Minn.

ZIMKINA, A.M.

Typological peculiarities of the higher nervous activity in man. Vop. psichol. 3 no.1:179-182 Ja-F '57. (MIRA 10:3)
(Psychology, Physiological)

ZIMKINA, A.M. (Leningrad)

"Problems in the physiology of the vegetative portion of the nervous system" by E.N.Speranskia. Reviewed by A.M.Zimkina. Fiziol.zhur. 48 no.6:765 Je '62.

(NERVOUS SYSTEM, AUTONOMIC) (SPERANSKAIA, E.N.)

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CIA-RDP86-00513R002065210016-8

ZIMKINA, A.M. (Leningrad)

"Higher cortical functions in man and their disturbances in local brain lesions" by A.R.Luria. Reviewed by A.M.Zimkina. Vop. psichol. 9 no.6:181-183 N-D '63. (MIRA 17:4)

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065210016-8"

ZIMKINA, A.M.

"On the adaptational trophic importance of deep structures in man's brains."

Report submitted, but not presented at the 22nd International Congress of Physiological Sciences,
Leiden, the Netherlands 10-17 Sep 1962

ZIMKINA, A.M.

Methods for studying the manifestations and nature of some disorders of the functional state of the central nervous system. *Trudy LISETIN* 7:3-29 '62. (MIRA 15:8)

(NEUROLOGY)

BIRYUKOV, D.A., otv. red.; ABULADZE, K.S., red.; DANILOV, I.V., red.; KUDRYAVTSEVA, N.N., red.; KOSTENETSKAYA, N.A., red.; LAPINA, I.A., red.; MURAV'YEVA, N.P., red.; KHANANASHVILI, M.M., red.; ZIMKINA, A.M., red.; KHARASH, G.A., tekhn. red.

[Some problems of modern physiology; a collection of papers dedicated to the 70th birthday and 45th anniversary of the scientific activity of the Honored Scientist, Professor Petr Stepanovich Kupalov, member of the Academy of Medical Sciences of the U.S.S.R.] Nekotorye voprosy sovremennoi fiziologii; sbornik, posviashchennyi 70-letiiu so dnia rozhdeniya i 45-letiiu nauchnoi deiatel'nosti deistvitel'nogo chlena AMN SSSR zasluzhennogo deiatelia nauki professoora Petra Stepanovicha Kupalova. Leningrad, Medgiz, 1959. 262 p. (MIRA 15:8)

1. Institut eksperimental'noy meditsiny Akademii meditsinskikh nauk SSSR (for Biryukov, Abuladze).

(KUPALOV, PETR STEPANOVICH, 1889?-)
(PHYSIOLOGY)

THET'YAKOV, A.P.; BOGOLIPOV, N.N.; ZIMKINA, A.M.; SPIVAK, F.N.;
BUREYKO, V.M.; AVERBAKH, A.Ya.; LIVSHIN, A.V.; PASHINA, L.G.,
red.; BALDINA, N.P., tekhn.red.

[Principles of disability evaluation; theory, methodology,
organization. Guide for physicians of the Medical Experts'
Commission on Workers' Disability, medical and prophylactic
and other institutions, teachers and students of medical
institutes] Osnovy vrachebno-trudovoi eksportiny; teoriya,
metodika, organizatsiya. Rukovodstvo dlia vrachel VTN,
lechebno-profilakticheskikh i drugikh uchreshdenii, pre-
podavatelei i studentov meditsinskikh institutov. Moskva,
Medgiz, 1960. 326 p. (MIRA 14:12)

(DISABILITY EVALUATION)

ZIMKINA, A. M.

Znacheniye nespretsificheskikh sistem v rasstroystve deyatel'nosti
nervnoy sistemy.

report submitted for the First Moscow Conference on Reticular Formation,
Moscow, 22-26 March 1960.

ZIMKINA, A.M., prof.; MAKHAVNYSKIN, P.A., kand.med.nauk

Significance of nonspecific and adaptation-trophic influences
in the coordination of nervous activity and the phenomena of
compensation and decompensation. Trudy LISTIN 2:179-186 '59.
(MIRA 13:7)

(NERVOUS SYSTEM)

ZIMKINA, A.M.

Changes in various reaction patterns caused by the impairment of cerebral activity at the diencephalic or brain stem levels. *Viziol. zhur. SSSR* 45 no.7:789-800 Jl '59. (MIRA 13:4)

1. From the department of physiology, Research Institute for Medical Expertise of the Disabled, Leningrad.
(BRAIN physiology)

ZIMKINA, A.M.

T

Country :USSR
Category: Human and Animal Physiology. Nervous System.
Higher Nervous Activity. Behavior

Abs Jour: RZhBiol., No 19, 1958, 89227

Author : Zinkina, A.M.

Inst : AS USSR

Title : On Some Particularities of Tactile Trace Processes
(Afterimages) in Men Under Normal Conditions and
in Disturbances of Activity of the Nervous System.

Orig Pub: Materialy po obozryut. fiziol. T. 2. M-L., AN SSSR,
1957, 196-214

Abstract: Tactile afterimages (AI) were investigated in 46
normal subjects and in 145 patients with organic
and functional diseases of the nervous system,

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Country : USSR

Category: Human and Animal Physiology. Nervous System.
Higher Nervous Activity. Behavior.

Abs Jour: RZhBiol., № 19, 1958, 89227

the divergence between the thresholds of perception and of traces, decrease of the duration of traces following secondary stimulation (organic damage of the C.N.S.); intensification of the stimulation and the administration of caffeine to these patients occasionally normalized the character of AI. Under conditions of closed injury of the brain, an asymmetry of tactile traces occasionally resulted. It is possible that the dynamics of the trace processes reflect the particularities of the interaction of the signal systems in the area with optimal excitability. -- M.I. Lisina

Card : 3/3

Country : USSR

Category: Human and Animal Physiology. Nervous System.
Higher Nervous Activity. Behavior.

Abs Jour: RZhBiol., No 19, 1958, 89228

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and left hemispheres. In injuries of the cerebellum disappearance of AI was observed on the side of the damage, or bi-laterally. Disturbances of AI resulted not only from damage of the corresponding analyzer but also in general cerebral manifestations, conditioned by disturbances of the adaptational and trophical effects of the sympathetic nervous system upon the C.N.S. -- N.N. Zislina

Card : 2/2

Country : USSR

Category: Human and Animal Physiology. Nervous System.
Higher Nervous Activity. Behavior.

Abs Jour: RZhBiol., № 19, 1958, 89229

2) paradoxical sensitivity in the gustatory analyzer; 3) the appearance (in the tactile and thermal) and prolongation (in the optic analyzer) of the latent period of the appearance of after-images (AI); 4) inconstancy of AI, and, frequently, prolongation of their duration; 5) more frequent appearance and greater quantity of secondary AI, than in normal; 6) apparent increase in the AI of the dimensions of the stimulated receptor zone; simultaneous manifestation of multiple and colored AI; changes in the form of optic AI.

Card : 2/3

ZIMKINA, A.M.

Mechanisms of interaction of the signal systems ("Problems in the higher nervous activity of normal and abnormal children." Reviewed by A.M. Zimkina). Vop. psichol. 4 no.2:150-153 Mr-Ap '58.
(Psychology, Physiological) (Child study) (MIRA 11:5)

ZIMKINA, A.M.

The reticular formation and its role in regulation of cerebral functions under normal and pathological conditions [with summary in English]. Fiziol. zhur. 44 no.4:369-382 Ap '58. (MIRA 11:4)

1. Otdel fiziologii Nauchno-issledovatel'skogo instituta eksperimentarnykh trudosposobnosti i trudoustroystva invalidov, Leningrad.
(BRAIN STEM, physiology
reticular form. role in regulation of cerebral funct. (Rus))

ZIMKINA, A.M.

Some electroencephalographic pathological indices of
mesodiencephalic structures in man. Trudy LIETIN
no.13:3-26 '64. (MIRA 18:12)

VLADIMIROV, Yu.A.; ZIMINA, G.M.

Luminescence of some proteins and tryptophan under monochromatic
excitation in solutions with different pH. Biokhimiia 30
no.6:1105-1114 N.D '65. (MIRA 1981)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. Submitted
January 9, 1964.

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SD/79-30-3-35/69

AUTHORS: Polyakova, A. A., Zimina, K. A., Petrov, A. A.,
Khmel'nitskiy, R. A.

TITLE: Mass Spectra of Vinylalkylacetylenes

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3,
pp 912-918 (USSR)

ABSTRACT: The mass spectra of the following vinylalkylacetylenes were studied: pent-1-en-3-yne, hex-1-en-3-yne, and dec-1-en-3-yne. The results of this work are given in Table A. The stability of the ion molecule decreases and that of ion fragments increases with the increase of alkyl radical. Among ion fragments formed with the rupture of C - C bond the following types of ions predominate: $C_nH_{2n-3}^+$, $C_nH_{2n-5}^+$, $C_nH_{2n-7}^+$, and $C_nH_{2n-4}^+$. A rupture of bond to a conjugated system is characteristic for higher vinylalkylacetylenes. Carbon-carbon bond (to conjugated system) is less stable to electron bombardment. The ions of the type $C_nH_{2n-4}^+$

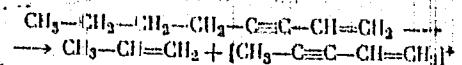
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Mass Spectra of Vinylalkylacetylenes

78281

SOV/79-30-3-35/69

can originate as a result of rearrangement processes related to hydrogen migration. For $C_5H_6^+$ it will be



There is 1 table; and 5 references, 3 Soviet, 1 German, 1 U.S. The U.S. reference is: American Petroleum Institute Research, Project 44, Mass-Spectral data, N. Y.

SUBMITTED: March 28, 1959

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Table A: Mass spectra of vinylalkylacetylenes 78281 SOV/79-30-3-35/69

MASS AND COMPOSITION OF FRAGMENT	ION INTENSITY				
	$\text{HC}\equiv\text{C}-\text{CH}=\text{CH}_2$	$\text{CH}_3-\text{C}\equiv\text{C}-\text{CH}=\text{CH}_2$	$\text{C}_2\text{H}_5-\text{C}\equiv\text{C}-\text{CH}=\text{CH}_2$	$\text{C}_3\text{H}_7-\text{C}\equiv\text{C}-\text{CH}=\text{CH}_2$	$\text{C}_4\text{H}_9-\text{C}\equiv\text{C}-\text{CH}=\text{CH}_2$
12 C^+	1.5	0.9	—	—	—
13 CH^+	1.3	—	—	—	—
14 CH_2^+	1.2	—	—	—	—
15 CH_3^+	0.4	2.0	15.3	—	—
25 C_2H^+	3.6	1.6	1.4	—	—
26 C_2H_2^+	11.0	3.8	18.1	7.8	—
27 C_2H_3^+	2.9	8.3	52.6	78.2	—
28 C_2H_4^+	0.5	—	—	—	—
36 C_3^+	1.5	1.7	—	—	—
37 C_3H^+	5.1	9.5	4.1	—	—
38 C_3H_2^+	2.2	17.0	9.1	9.7	5.4
39 C_3H_3^+	0.8	91.5	59.6	100.0	0.1
40 C_3H_4^+	0.6	—	—	23.7	48.5
41 C_3H_5^+	—	—	—	—	12.2
42 C_3H_6^+	—	1.8	15.0	67.3	33.8
43 C_3H_7^+	—	—	4.1	3.0	9.4
48 C_4^+	2.8	1.0	4.5	33.3	48.8
49 C_4H^+	13.0	4.0	2	—	—
50 C_4H_2^+	41.9	10.0	20.6	12.5	7.0
51 C_4H_3^+	50.2	17.0	27.7	27.6	19.4
52 C_4H_4^+	100.0	—	27.0	46.3	13.2
53 C_4H_5^+	4.4	—	16.4	14.8	16.9
54 C_4H_6^+	—	—	5.5	2.4	3.7
55 C_4H_7^+	—	—	2.9	3.3	23.1
56 C_4H_8^+	—	—	2.0	3.6	0.7
57 C_4H_9^+	Card 2/4	—	0.7	—	4.0

(Table A cont'd)

78281 S9V/79-30-3-35/69

	$\text{C}=\text{C}-\text{CH}_3$	$\text{C}_2\text{H}_5-\text{C}=\text{C}-\text{CH}_3$	$\text{C}_2\text{H}_5-\text{C}_2\text{H}_5-\text{CH}_3$	$\text{C}_2\text{H}_5-\text{C}=\text{C}-\text{CH}_3$
60 C_2^+	—	0.4	—	—
61 C_2H_3^+	12.0	3.6	—	—
62 C_2H_4^+	15.0	8.7	6.4	2.9
63 C_2H_5^+	21.0	18.5	21.4	12.6
64 C_3H_3^+	—	4.5	7.5	3.1
65 C_3H_5^+	38.0	42.8	36.6	35.9
66 C_3H_6^+	100.0	120	58.4	28.7
67 C_3H_7^+	—	0.6	15.7	20.6
68 C_3H_8^+	—	—	—	4.5
69 C_4H_3^+	—	5.4	—	—
70 C_4H_5^+	—	68.1	83.2	45.3
71 C_4H_6^+	—	18.5	23.4	13.9
72 C_4H_7^+	—	100.0	85.4	100.0
73 C_4H_8^+	—	83.2	18.1	32.7
74 C_4H_9^+	—	4.6	—	5.4
75 C_5H_3^+	—	—	38.0	30.8
76 C_5H_5^+	—	—	—	3.4
77 C_5H_6^+	—	—	64.7	38.6
78 C_5H_7^+	—	—	—	5.8
79 C_5H_8^+	—	—	—	6.7
80 C_5H_9^+	—	—	—	2.7
81 C_6H_3^+	—	—	—	4.0
82 C_6H_5^+	—	—	—	4.0
83 C_6H_6^+	—	—	—	43.9
84 C_6H_7^+	—	—	22.5	7.2
85 C_6H_8^+	—	—	—	9.9
86 C_6H_9^+	—	—	—	4.9

Card 4/4

POLYAKOVA, A.A.; ZIMINA, K.I.; PETROV, A.A.; KHMEI'NITSKIY, R.A.

Mass spectra and structure of silicon-containing vinylacetylenes.
Dokl.AN SSSR 134 no.4:833-835 O '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gaza i polucheniya ikskusstvennogo zhidkogo toppliva.
Predstavлено akad. B.A.Arbusovym.

(Silicon organic compounds) (Butenynes)

ZIMINA, L.N.
P.2

PHASE I BOOK EXPLOITATION SOV/3559

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po probleme zhаропрочных сплавов

Issledovaniya po zhаропрочным сплавам, t. 5 (Investigations of Heat-Resistant Alloys, Vol 5) Moscow, Izd-vo AN SSSR, 1959. 423 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V.A. Klimov; Tech. Ed.: I.F. Kuz'min; Editorial Board: I.P. Bardin, Academician, G.V. Kurdyumov, Academician, N.V. Ageyev, Corresponding Member, USSR Academy of Sciences (Resp. Ed.), I.A. Oding, I.M. Pavlov, and I.F. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

COVERAGE: This book, consisting of a number of papers, deals with the properties of heat-resisting metals and alloys. Each of the papers is devoted to the study of the factors which affect the properties and behavior of metals. The effects of various elements such as Cr, Mo, and W on the heat-resisting properties of various alloys are studied. Deformability and workability

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SOV/3559

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- Legrand, S.V. Method of Elongation by Forging With the Use of Back Pressure 358
- Kuznetsov, V.D. Basic Problems in Mechanical Properties of Heat-Resistant Alloys 361

AVAILABLE: Library of Congress

Card 9/9

VK/jb
5-18-60

ZIMINA, L.N.

Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chelyokh metallurgii

Spetsial'nyye stali i splavy (Special Steels and Alloys) Moscow, Metallurgizdat, 1960, 458 p. (Series: Itsa chelyokh traktor, vyp. 17) Kresta slip inserted. 4,000 copies printed.

Sponsoring Agencies: Institut kachestvennykh stalei; Gosnaukrotrtschij planovyy komitet Soveta Ministrov SSSR; and Glavnyy upravleniye nauchno-issledovatel'skikh i proektnykh organizatsiy.

Ed.: M.V. Pridantsev; Ed. of Publishing House: A.L. Ozerovskaya
Tech. Ed.: V.V. Nikhaylova.

PURPOSE: This book is intended for engineering and research personnel in the metallurgical and machine-building industries.

COVERAGE: This book contains papers on the physical properties of special industrial steels and alloys. Individual papers treat: the problem of flake formation in steels and preventive measures, the effect of alloying additions and heat treatment on the structure and properties of steel, steel corrosion and preventive measures, and the properties of chromium-nickel alloys. There are 120 references: 67 Soviet, 22 English, 9 German, and 2 French.

Ternovskii, D.A. Alloys Replacing Molybdenum in the Radio Industry 393

Kal'nikov, D.A. [Engineer]. Longitudinal Split of Music Wire in Testing for Twisting and Nonuniform Plastic Deformation in Drawing 430

Morozova, Ye.S. Effect of Alloying Additions on the Structure and Properties of Patented and Cold Drawn Carbon Wires 431

Zimina, L.N. [Engineer], and M.V. Pridantsev. Structural Changes in Nickel-Essue Alloys 472

ZIMINA, R. P.

"Vertical Zonality of Natural Geographical Landscapes and Distribution
of Mountain Animals"

report to be submitted for the Intl. Geographical Union, 10th General Assembly
and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

ZIMELEV, G.

Automobile-street-city. Za rul. 17 no.8:22-24 Ag "59.
(MIRA 12:12)
(Traffic engineering)

H/010/61/000/004/001/001
E073/E535

AUTHOR: Zimmer, György

TITLE: Molecular amplifiers (Ammonia maser oscillator)

PERIODICAL: Rádiotechnika, 1961, No. 4, pp.100-101

TEXT: Popular description of the operation of ammonia maser oscillators. The description of the operation and also of the properties is based exclusively on published American information. There are 6 figures and 9 references: 1 Soviet and 8 English. Four of the references to English-language publications read as follows: Mitchell Roots et al. "Ammonia Maser Oscillator", Electronic Technology, Vol. 37, No. 4, pp. 136-142, 1960; "Amplifying with Atoms", Bell Lab. Record, Vol. 37, No. 5, 1960, pp. 163-167; Laine, "Masers or Parametric Amplifiers", Electronic Technology, Vol. 37, No. 3, 1960, pp. 175-185; "Masers", Review of Modern Physics, 1959, No. 3, pp. 681-710.

Card 1/1

ZIMMER,Cyorgy

Molecular amplifiers. Radiotekhnika 11 no.3:83-84. Mr :61

ZIMMER, Gyorgy

Molecular amplifiers. Radiotekhnika 11 no.4:100-101 Ap '61.

ZIMMER, I.M.

Our achievements in the mechanization of oil tank farms.
Neftianik 3 no.2:15 F '58. (MIRA 11:4)

1.Glavnyy inzhener Stalinskogo tovarotransportnogo upravleniya
Ukrneftesbyta.
(Petroleum--Storage)

ZIMMER, I.M.

92-2-17/37

AUTHOR: Zimmer, I. M., Chief Engineer

TITLE: Our Achievements in Mechanizing Petroleum Bulk Plants
(Nashi dostizheniya v mekhanizatsii neftebaz)

PERIODICAL: Neftyanik, 1958, Nr 2, p 15 (USSR)

ABSTRACT: The author states that the personnel of the petroleum bulk plants operating under the Stalino Transport Administration took considerable effort to introduce new techniques, mechanize various operations and improve working conditions. The receiving of light petroleum products and lubricants was mechanized at all bulk plants. Most of these plants also mechanized operations connected with the delivery of petroleum products. Special pumps for changing lubricating oil into tank cars were installed in a number of petroleum bulk plants. Efficiency experts and innovators played an important part in the mechanization of various operations. Between 1952 and 1956, 277 suggestions were made by workers of petroleum bases, and 160 of this number were accepted. Hydraulic and pneumatic equipment for hoisting barrels will soon be introduced and widely used at bulk plants and terminals operating under the above-

Card 1/2

92-2-17/37

Our Achievements in Mechanizing Petroleum Bulk Plants (Cont.)

mentioned administration. The mechanization of receiving operations and of deliveries improved customer relationships and working conditions, and in addition reduced the number of injuries. However, the problems of mechanizing the unloading of products received in containers and their storage and emptying are not yet solved. Engineers, technicians and operators are doing their best to solve this problem too.

ASSOCIATION: Stalinskoye tovaro-transportnoye upravleniya Ukrneftesbyta (Stalino Transport Administration of the Ukrainian Office for Marketing Petroleum Products)

AVAILABLE: Library of Congress

Card 2/2

USSR/Human and Animal Physiology - Effect of Physical
Factors. Ionizing Radiation.

T-11

Abs Jour : Ref Zhur - Biol., No 18, 1953, 84653

Author : Rosman, I.M., Zimmer, K.G.

Inst :

Title : Luminescence Isodosograph.

Orig Pub : Vest. rentgenol. i radiol., 1957, No 2, 58-65.

Abstract : No abstract.

Card 1/1

BUMSH, M.A.; ZIMKINA, T.M.

Texture of films vapor-plated in vacuo on solid surfaces. Vest. Len.
un. 11 no.4:33-49 F '56. (MIRA 9:?)
(Vapor-plating) (Lead sulfide) (Electronography)

B-5

Zimkina, T.M.
USSR/Physical Chemistry - Crystals.

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7080.

Author : M.A. Rumsh, T.M. Zimkina.

Inst : Academy of Sciences of USSR.

Title : Mechanism of Texture Formation in Layers Condensed on
Neutral Base Layers.

Orig Pub: Izv. AN SSSR., ser. fiz., 1956, 20, No 7, 827-829.

Abstract: The mechanism of texture formation in layers condensed on neutral base layers is discussed. The authors assume that the substance brought in a molecular pencil is not assimilated as a whole by the surface, but that it is partly repelled. The pre-eminent orientation is created by the development of crystals with rapidly growing faces, orientated perpendicularly to the molecular pencil. In the author's opinion, the growth texture originates in consequence of

-25-

Card : 1/2

ZIMKINA, T.M.

Electron diffraction study of the air oxidation of thin PbS single-crystal films. Zhur. tekhn. fiz. 28 no.5:999-1005 Noy '58.
(MIRA 11:6)

1. Leningradskiy gosudarstvennyy universitet.
(Lead sulfide) (Electron diffraction examination) (Oxidation)

AUTHOR:

Zimkina, T. M.

57-28-5-15/36

TITLE:

Investigation of the Atmospheric Oxidation Process of
Thin Monocrystalline PbS-Films by Means of Electron
Diffraction Patterns
(Issledovaniye protsesssa okisleniya tonkikh monokristal'-
nykh plenok PbS na vozdukhe metodom diffraktsii elektronov)

PERIODICAL:

Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 5,
pp. 999-1005 (USSR)

ABSTRACT:

In the present paper the author investigated the oxidation process of thin (of the order of 100-150 Å) monocrystalline films of lead sulfide with the method of electron diffraction patterns. The results show that the structural changes taking place in the process of the interaction of the oxygen with the PbS lattice lead to the formation of different oxidation products. At temperatures below 400°C together with lanarkite $PbO \cdot PbSO_4$ a compound is produced which is characterized by a tetragonal, volume-centered lattice with the parameters $a = 3,94 \text{ \AA}$, $c = 13,04 \text{ \AA}$. When

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Investigation of the Atmospheric Oxidation Process
of Thin Monocrystalline PbS-Films by Means of Electron
Diffraction Patterns

57-28-5-15/36

the oxidation proceeds in the temperature interval of from 400 - 500°C also two phases occur. One of them has a monoklinic lattice with the parameters: $a = 10,14 \text{ \AA}$, $b = 5,70 \text{ \AA}$, $c = 13,25 \text{ \AA}$ and $\beta = 80^\circ 36'$. The lattice of the other phase is rhombic with the parameters $a = 11,75 \text{ \AA}$, $b = 11,58 \text{ \AA}$, $c = 7,30 \text{ \AA}$. Of the obtained oxidation products only lanarkite is a known compound. None of the other oxidation products could be identified with known oxysulfates and lead oxides. The formation of new oxidation products was also observed by Hagihara (Reference 3) and Yamaguti (Reference 7). The compounds discovered by Hagihara (References 3 and 4) PbSO_4 and Pb_2O were not observed. As

to the distances between the lattice planes, which by Hagihara were counted to the yellow modification, they correspond to those which were obtained by the author at temperatures above 400°C. Contrary to Vil'man and Elleman (Reference 5) no lead chloride was obtained in the oxidation of PbS-films on rock salt. The obtained results permit to supplement the assertion by Vil'man, who consi-

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Investigation of the Atmospheric Oxidation Process 57-28-5-15/36
of Thin Monocrystalline PbS-Films by Means of Electron
Diffraction Patterns

dered lanarkite to be the only oxidation product of thin lead sulfide layers. Apparently the oxidation process is more complicated and leads to the formation of several oxidation phases. The ignorance of the chemical composition of the obtained oxidation products does not permit to solve the second part of the structural problem, that is to say, to find the distribution of the atoms in the oxide lattice. It is intended to investigate in the next paper the chemical composition of the oxidation product formed at temperatures below 400°C as well as its structure. The problem is much more complicated for compounds which are formed at temperatures above 400°C, as a simultaneous occurrence of several phases is possible. The author thanks A. A. Lebedev, Member, Academy of Sciences, for his interest and his suggestions as well as his director M. A. Rumsh, Docent, and N. N. Ivanchik. There are 11 figures and 7 references, 1 of which is Soviet.

Card 3/4

Investigation of the Atmospheric Oxidation Process 57-28-5-15/36
of Thin Monocrystalline PbS-Films by Means of Electron
Diffraction Patterns

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
(Leningrad State University)

SUBMITTED: April 2, 1957

1. Monomolecular films--Oxidation 2. Lead sulfides--Oxidation

Card 4/4

ZIMKINA, T. M., Cand Phys-Math Sci (diss) "Electron-difraction study of phase rearrangements occurring in the oxidation of the monocrystalline layers of lead sulfide," Kiev, Leningrad, 1960, 10 pp, (Leningrad State Pedagogical Institute imeni A. I. GIRTSEV).

(KL, 40-60, 120)

Zimkina, T. M.

82555

S/181/60/002/007/038/042
B006/B060

24.7200

AUTHORS: Zimkina, T. M., Shchemelev, V. N.TITLE: Electron Diffraction Studies of PbS Oxidation ProductsPERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 7, pp. 1643-1649

TEXT: Lead sulfide photoresistors are much used because of their high infrared sensitivity; the high photosensitivity is related to the insertion of oxygen into the PbS lattice. The structural modifications thus caused are studied in the present paper. It had already been established that four different phases are formed in the range 300 - 550°C. $PbO \cdot PbSO_4$ (lanarkite) prevailed below 400°C, while for the other three oxide phases space lattices were determined, which did not agree with any of the known forms $Pb - S - O$ or $Pb - O$. The oxidation products forming above 450°C have two different electron diffraction pictures which are reproduced in Figs. 1 and 2. Of the same specimen (as used for Fig. 1), Fig. 3 shows a diffraction picture obtained under different conditions, and Fig. 4 an electron diffraction picture of a PbS layer evaporated on a carbon film. An analysis of the diffraction pictures (which is discussed in great detail) yielded

Card 1/2

Electron Diffraction Studies of PbS Oxidation Products

82559
S/181/60/002/007/038/042
B006/B060

lattice parameters which are indicative of rhombic and tetragonal structures of the oxidation products. The interplanar spacings were calculated for the tetragonal phase ($450 - 550^{\circ}\text{C}$). The results are tabulated in the table of p. 1647. The results obtained from the investigations can be summarized as follows: 1) On the oxidation of thin single crystal and polycrystalline layers in the range $400 - 550^{\circ}\text{C}$ the chemical compound $4\text{PbO} \cdot \text{PbSO}_4$ is formed. ✓
2) This compound is characterized by a tetragonal lattice with the parameters $a = 11.60 \text{ \AA}$ and $c = 7.30 \text{ \AA}$ and the interplanar spacings given in the table. 3) The existence of other phases of this compound is possible, which exhibit a higher degree of ordering as to the position of the individual molecules or structural groups and have a rhombic lattice with the parameters $a = 11.70 \text{ \AA}$, $b = 11.50 \text{ \AA}$, and $c = 7.30 \text{ \AA}$. The authors finally thank Academician A. A. Lebedev and Docent M. A. Rumsh for their interest. The work was completed at the problemnaya laboratoriya poluprovodnikov LGU im. A. A. Zhdanova (Laboratory for Semiconductor Problems of the Leningrad State University im. A. A. Zhdanov). There are 4 figures, 1 table, and 6 references: 4 Soviet and 1 US.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
(Leningrad State University)

SUBMITTED: November 16, 1959
Card 2/2

S/070/62/007/006/007/020
E132/E435

AUTHORS: Rumsh, M.A., Novik, F.T., Zimkina, T.N.

TITLE: The structural characteristics of single crystal layers
of CdTe

PERIODICAL: Kristallografiya, v.7, no.6, 1962, 873-877

TEXT: CdTe was sublimed on to crystals of NaCl, cut to expose the (111) faces and heated to 200 - 300°C. S.A.Semiletov (Kristallogr. v.1, no.3, 1956, 306-310) had earlier shown that CdTe can exist in the sphalerite and wurtzite modifications. Since the two phases can coexist by having their close packed planes parallel to the 111 of the NaCl substrate the preparations could not be said to be two-phase. Nevertheless, there were anomalies in the electron diffraction pattern in the form of extra reflexions and streaks. The metal film was stripped from the NaCl and examined by transmission. The electron beam passed in the direction of the cubic [111] direction, hence reflexions for which $h + k + l = 0$ fell in the Ewald sphere for the cubic form. For the hexagonal form reflexions with $h - k = 3n$ coincide with those from the cubic form. Cubic reflexions 202 etc had six spikes extending about one third of the way to the next reflexions associated with

Card 1/2

The structural characteristics ...

S/070/62/007/006/007/020
E132/E435

them. It was shown, and confirmed by tilting the specimen, that these spikes are the traces of lines of density in reciprocal space radiating in the octahedral directions from the common reciprocal lattice points in the [111] directions. The effects are caused by the stacking of the layers, sometimes in the cubic sequence and sometimes in the hexagonal. However, some extra spots may occur when the hexagonal basal plane coincides with other of the octahedral planes of the cubic form than that parallel to the substrate. There are 5 figures and 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
(Leningrad State University)

SUBMITTED: March 5, 1962

Card 2/2

SOURCE: *Kristallografiya*, v. 8, no. 3, 1963, 378-381

TOPIC TAGS: electron diffraction pattern, photovoltaic effect, CdTe, NaCl, KCl, X

ABSTRACT: This study was made because of the importance of photovoltaic properties in CdTe. Electron diffraction patterns were obtained from "mono-crystalline" layers of CdTe, which had been deposited by utilization in a vacuum of layers of NaCl, KCl, and KBr. In addition to reflections of the $\bar{a}\bar{b}$ type, these diffraction patterns show supplementary reflections, resulting from the coexistence of cubic and hexagonal modifications of the CdTe, interlayered in regular planes of these phases. The characteristic feature of the reflections is the presence of multiple maxima, which, in turn, indicates the presence of superlattice reflections. The following table gives the Miller indices for the layers of the structure of CdTe.

ASSOCIATION: Leningradskiy Gosudarstvennyy universitet (Leningrad State University)

Card 1/21

S/048/63/021/003/005/025
B106/H114

AUTHORS: Lukirskiy, A. P. and Zimkina, T. M.

TITLE: Fine structure of the L_{II,III} absorption edge of argon

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 27, no. 3, 1963, 324-329

TEXT: The absorption spectrum of argon was measured with a spectrometer (A. P. Lukirskiy, Izv. AN SSSR. Ser. fiz., 25, no. 6, 913 ('61)) plus a digital counter after the 3000 channel. Nova acta Regia Soc. Scient. Upsaliensis, 14, no. 4 (1961), turned out to involve two main backgrounds. The curves of μ/λ versus wavelength (energy), taken at various pressure levels, show characteristic points for an absorption intensity redistribu-

QAYC 1/3

S/048/63/027/DC3/005/025
B108/B114

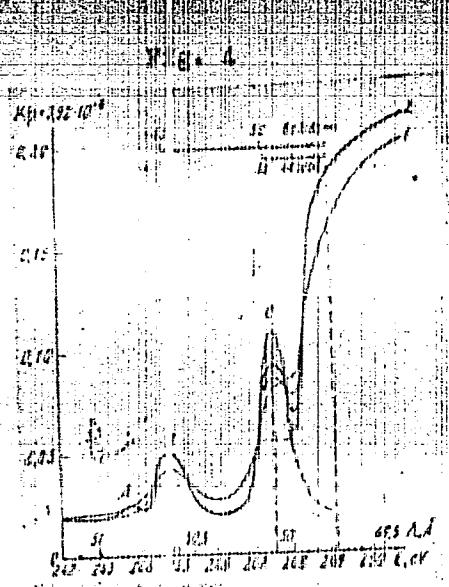
Fine structure of the ...

of potassium are shown at the top of the figure. The B maximum is attributed to transition from the L_{II,III} levels to the 4d-state; the C maximum to transition to the 3d- and 5s-states. According to the form of the B and C maxima, the width of the L_{II,III} levels is 1 ev. The position of the fundamental absorption edge, as determined from the end of the series, is 24.5 ev. There are 4 figures and 1 table.

ASSOCIATION: Fizicheskiy fakul'tet Leningradskogo gos. universiteta
Prof. A. A. Mianava Physics Division of Leningrad
State University, Leningrad, Russia

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065210016-8



Card 3/3

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065210016-8"

AUTHORS: Lukitskiy, A. P., and Zimkina, T. M.

TITLE: M-series of Zr, Nb and Mo, and M-emission bands of Nb and Mo

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 3, 1963, 330 - 339

TEXT: In the course of studying the work performed by the spectrometer described earlier (A. P. Lukitskiy, Izv. AN SSSR, Ser. fiz., 25, 3, 51) (1961) and determining the "instrumental distortions" occasioned by that apparatus as well as the absolute intensities in the spectra, it was found possible to determine the natural widths of certain lines in the M-spectra of Zr, Nb and Mo along with their relative intensities. For the purpose of determining the "instrumental distortions" the strongest M₁ lines of the Mo and Nb in the 1st, 3rd and 5th order and those of Zr in the 1st and 3rd order were examined. It was found that the curve of "instrumental distortions", plotted in the M₁-M₂ plane, coincides with the dispersion function may here

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S/048/63/C47/005/006/025
B117/B234

K-series of Zr, Nb and Mo, and...

making the appropriate corrections for the "instrumental distortions" the following natural widths of lines in the K-series were found:

Zr	Nb	Mo
relative intensity	relative intensity	relative intensity
%	%	%
M _{IV,V} -Y _{II}	2.3(4)	-
M _{IV,V} -Y _I	1.3(2)	0.60
M _{II-IV}	1.1(3)	0.64
M _{III-IV,V}	-	-
M _{IV,V-N_{II,III}(M_f)}	100(5)	0.420
	100(0)	0.505
		100(9)

Except for the emission bands (transition to Y_{II}) all the lines have a dispersion form. Examination of the Nb and Mo emission bands showed that these were similar to one another.

Card 3/4

X-series of Zr, Nb and Mo, and...

3/046/03/027/001/CC 6/025
B117/B236

ASSOCIATION: Fizicheskiy fakultet Leningradskogo gos. universiteta
A. A. Zhdanova (Department of Physics of the Leningrad State
University imeni A. A. Zhdanova)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065210016-8

Card 4/4

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065210016-8"

ACCESSION NO. 100-2065210016-8

AUTHOR: Lukirskiy, A. P.; Zimina, T. M.

TITLE: Mass absorption coefficients of argon and ethyl alcohol in the ultrasoft x-ray region [Report of the Sixth Conference on X-Ray Spectroscopy held in Odessa from 2 to 16 July 62].

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v. 27, no. 6, 1963, 817-820

TOPIC TAGS: mass absorption coefficients; argon; ethyl alcohol

ABSTRACT: One of the best mixtures for filling gas counters for detecting ultrasoft x-rays is argon plus ethyl alcohol vapor, and for determining the counter efficiency one must know the mass absorption coefficients of the gas, yet the wavelength dependence of the mass absorption coefficients of argon and ethyl alcohol in the ultrasoft x-ray region is inadequately known. The purpose of the present work was to fill this gap. The measurements were carried out with the aid of a special x-ray spectrometer with combined detection in the 250 to 44

Angstrom range and an equivalent energy range from 10⁻¹⁰ to 10⁻¹ eV. The detector value and time constant are also indicated.

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L 9835-63
ACCESSION NR: AP3001361

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range. Both instruments have provision for detection by means of secondary electron multipliers or/and a scintillator counter; for the present measurements the

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L 9835-63
ACCESSION NR: AP3001361

ASSOCIATION: Leningradskiy gos. universitet im. A. A. Zhdanova (Leningrad State
University)

SUBMITTED: 00

DATE ACQ: 01Jul63

INCL: 00

SUB CODE: PH

NR REF INV: 004

CITIEN: 004

ACCESSION NR: AP4032874

S/0051/64/016/004/0688/0094

AUTHOR: Lukirskiy, A.P.; Zimkina, T.M.; Bry*tov, I.A.TITLE: Investigation of x-ray spectra in the wavelength region above 15 Angstrom
by means of a spectrometer with a gold coated diffraction grating

SOURCE: Optika i spektroskopiya, v.16, no.4, 1964, 688-694

TOPIC TAGS: x-ray spectroscopy, x-ray diffraction, diffraction grating, coated optics

ABSTRACT: In view of the importance in x-ray spectroscopy of the wavelength region below 40 Å, the present study was devoted to investigation of the distorting effect of a gold coating on an echelle grating. The echelle had 600 lines per mm and a blaze angle of 1°15'; it was coated with a 300 Å thick gold layer and installed in a recording spectrometer, wherein the angle of incidence was 5°30'. This grating had previously been tested by recording monochromatic lines in the 23.6 to 113 Å region (A.P.Lukirskiy, Ye.P.Savinov and Yu.F.Shepelev, Opt.i spektro.15,543,1963). Particular attention was devoted to determining the distorting effect in the region of the absorption edges of gold. The tests and comparisons show that, except in the 33

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ACCESSION NR: AP4032374

to 38 Å region, the absorption edges of gold introduce virtually no noticeable distortion, i.e., that a gold coated echelle can be used for investigating the shape of spectrum lines. In fact, in addition to enhancing the contrast, a gold coating extends the working range of the grating at 5°30' incidence down to about 15 Å. For test purposes some of the emission lines of oxygen and nitrogen in MgO and BN were recorded in the third order; the degree of contrast is excellent. There were also recorded the Mg lines of cadmium and silver; as recorded these lines have the classical dispersion shape. Their widths taken from the spectrometer curves are 10.2 and 8.8 eV, which is in agreement with the data in the literature. Orig.art.has: 8 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 24Jun63

DATE ACQ: 07May64

ENCL: 00

SUB CODE: OP

NR REF Sov: 007

OTHER: 004

Card 2/2

S/0048/64/028/005/0836/0840

ACCESSION NR: AP4038775

AUTHOR: Zimkina, T.M.; Yershov, O.A.; Lukirskiy, A.P.

TITLE: M Emission bands of zirconium, niobium and molybdenum and some chemical compounds of these elements /Report, Seventh Conference on X-Ray Spectroscopy held in Yerevan 23 Sep to 1 Oct 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.5, 1964, 836-840

TOPIC TAGS: x-ray spectrum, x-ray emission, zirconium, zirconium compound, niobium, niobium compound, molybdenum, molybdenum compound

ABSTRACT: The M emission bands of Zr, Nb and Mo and their oxides were recorded in continuation of earlier work on the M spectra of these metals (A.P.Lukirskiy and T. M.Zimkina, Izv.AN SSSR,Ser.fiz.27,330,1963). The spectrometer is described elsewhere (A.P.Lukirskiy,Ibid.25,215,1961); it has been equipped with a new gold-plated grating which makes it possible to record N, O and C lines. The oxide spectra were recorded only to assist in estimating the purity of the metal spectra. The Mo₂C spectrum was also obtained, as well as the spectrum of Nb containing 12.44% N. When the anode was operated cool (3 kV, 12 to 20 mA on the x-ray tube) lines of C, O and N

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ACCESSION NR: AP4038775

were present and the M emission band of each metal had a double peak. When the anode was operated sufficiently hot (45 to 100 mA, temperature greater than 1000°C) the C, O and N lines disappeared along with the double peaks. The double peak structure was traced to carbon contamination, and the Mo₂C spectrum was found to have this double peaked shape. The M emission bands of Nb and Mo showed the bands reported in the earlier paper of this series (loc.cit.supra); that of Zr was simple. The simpler structure of the Zr band is ascribed to the smaller number of 4d electrons in this metal. The band of pure zirconium (anode prepared from 99.99% zirconium iodide) was recorded with a resolution of 0.2 eV and an anode temperature of about 1000°C (C, O and N contamination less than 0.1%). The only perceptible structure was a weak line on the short wavelength side of the edge, similar to the lines reported in the previous paper for Nb and Mo. The width of the M₂ level was calculated from that of the short wavelength edge, but the result was lost in the corrections for instrumental broadening and temperature smearing of the Fermi surface, the final result being 0.04 ± 0.05 eV. The width of the 5s-4d band was obtained from the width of the M emission band; the long wavelength tail being eliminated by linear extrapolation. A value of 4.8 eV was found. The intensities of the lines of the M spectrum were measured relatively to K₂ and they are tabulated for all three metals. An error is noted in the Nb and Mo line intensities as tabulated in the previous paper.

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ACCESSION NR: AP4038775

The intensity ratios (intensities relative to M_{α}) of $M_{IV}, V-Y_{II}$ lines of Mo, Nb and Zr were, within the 20% experimental error, equal to the ratios 5:4:2 of the numbers of 4d electrons in the respective atoms. It is concluded that the M emission bands image the p and f states in the 4d bands, and characterize their widths and shapes. Orig.art.has: 4 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 12Jun64

SUB CODE: OP

NR REF Sov: 003

ENCL: 00

OTHER: 000

Card 3/3

L 00769-66 ENT(1)/ENT(n)/T/2^{4.5}(t)/EIP(b) TIP(c) JI/JC/2
ACCESSION NR: AF5012557 UR/0181/65/007/C05/1455/1461

AUTHOR: Zimkina, T. M.; Lukirskiy, A. P.

TITLE: Photoionization absorption in alkali-halide crystals in the 23-190 Å region
SOURCE: Fizika tverdogo tela, v. 7, no. 5, 1965, 1455-1461

TOPIC TAGS: alkali halide, photoionization, absorption coefficient, ionic crystal, electron shell

ABSTRACT: The purpose of the work was to obtain the spectral dependence of the absorption coefficient of ionic crystals and to trace, by comparison with the absorption spectra of inert gases, the influence of the field of the crystal on the character of absorption by ions which have the same electron configuration as the inert-gas atoms. To this end, a study was made of the spectral variation of the absorption coefficients of the ionic crystals KCl, KI, RbCl, RbI, CsCl, CsBr, and CsI in the wavelength region from 23.6 to 190.3 Å. The investigations were made with a vacuum spectrometer using the monochromatic emission lines of O, N, C, Mo, Nd, Zr, Y, Sr, Rb, Ba, and Cs. The samples were thin polycrystalline layers deposited by vacuum evaporation on nitrocellulose substrates. The intensity was measured with a proportional counter, with the count at the maximum of the line amounting to 10^4 - 10^5 pulses per second. The results show that the general spectral variation of the absorption coefficients of the investigated crystals coincides

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L 00769-66

ACCESSION NR: AP5012257

fully with that of the absorption coefficients of the corresponding inert gases. For ionic crystals in which the anions and cations have different electron configurations, the spectral curve can be represented as a superposition of two curves corresponding to inert gases whose electron configurations are analogous to the configurations of the anion and the cation. A hypothesis is advanced that the crystal lattice has little influence on the localized wave functions of the shell that follows the outer electron shell of the ions, or on the wave functions of the electrons of the continuous spectrum near the ionic core. "The authors thank I. V. Barenkov for a discussion of the results and S. A. Gribcavskiy for help with the experiment. Orig. art. has: 1 figure, 2 formulas, and 2 tables.

ASSOCIATION: Leningradskiy gosudarstvenny universitet (Leningrad State University)

SUBMITTED: CCDec04

CCOL (X)

SUPCLUE: SS, QP

MR REF Sov: 006

OTHER: CCI

Card 2/2

2PT(147) IJP(c) FG
ACCESSION NR: AP5012558

AUTHOR: Zimkina, T. M.; Lukireksy, A. P.

TITLE: Line structure of LIII-LI absorption spectra
NaCl, KCl, RbCl, and CsCl

SOURCE: Fizika tverdogo tela, v. 17, no. 10, p. 2255, 1985

PAGE: 147
TYPE: Article
SUBJ: Line structure of LIII-LI absorption spectra
NaCl, KCl, RbCl, and CsCl

UR/013L/65/CD/105/147/2-6

that the absorption curve
at the LII edge is dis-

L 38893-66 EWT(1)/EWT(m)/EMP(1)/T/EMP(t)/ETI IJP(c) RDW/JL/RM
ACC NR: AP6018563 SOURCE CODE: UR/0181/66/008/056/1929/1931

AUTHOR: Lukirskiy, A. P. (deceased); Zimkina, T. M.; Gribovskiy, S. A.

ORG: Leningrad State University im. A. A. Zhdanov (Leningradskiy gosudarstvennyy universitet)

TITLE: Photoionization of d-electrons in Te, Sn, Pb, PbTe, and SnTe

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1929-1951

TOPIC TAGS: tellurium, tin, lead, lead compound, tin compound, telluride, photoionization, ionization cross section, absorption spectrum, electron energy, electron distribution

ABSTRACT: The authors investigated the absorption spectra of Te, Sn, Pb, PbTe, and SnTe in the energy range 50 - 500 ev, to check on the existence of extrema in these spectra due to the node character of the wave functions, and not to the energy distribution of the electron states. The absorption coefficient was measured by a procedure described elsewhere (FTT v. 7, 1455, 1963) on test samples consisting of thin films deposited on nitrocellulose substrates. In all substances except lead the spectral peaks observed near 80 ev are related to photoionization of 4d-electrons and are located on the high-energy side of the NIV-Nv absorption edges, and the spectral dependence of the absorption coefficients from 50 to 500 ev agrees well in form with the experimental and theoretical energy dependence of the photoionization cross sections of the 4d-electrons of xenon. In the case of lead the peak lies lower than

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ACC NR: AP6018563

50 ev, owing to the lower value of the 5d-electron ionization potential. It is concluded as a result of a brief analysis that the maxima of the absorption spectra of the other four substances are not connected with their crystal structure but reflect the character of the 4d-electron absorption. The authors thank I. V. Abarenkov for a discussion of the results. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 14Dec65/ ORIG REF: 004/ OTH REF: 008

Card 2/2MLP

L 41590-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/JW/JG

ACC NR: AP6018540

SOURCE CODE: UR/0181/66/008/006/1787/1790

AUTHOR: Lukirskiy, A. P. (deceased); Yershov, O. A.; Zimkina, T. M.; Savinov, Ye. P.

ORG: Leningrad State University im. A. A. Zhdanov (Leningradskiy gosudarstvenny universitet)

TITLE: Spectral dependences of the absorption, reflection, and photoemission coefficients of LiF in the range from 60 to 120 ev

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1787-1790

TOPIC TAGS: lithium fluoride, absorption coefficient, absorption edge, quantum yield, bremsstrahlung, x ray diffraction study, spectral distribution

ABSTRACT: In order to study the fine structure of the absorption edge, the authors measured the coefficients of absorption, reflection, and the quantum yield of LiF in the range 60 - 120 ev, which has not been thoroughly investigated in the past. The measurements were made with an x-ray spectrometer with diffraction grating using the bremsstrahlung spectrum of a tungsten anode. The apparatus and procedures for its use and for elimination of higher-order diffraction spectra were described elsewhere (Opt. i spektr. v. 19, 433, 1965 and earlier papers). The tested samples were thin polycrystalline LiF films deposited by vacuum evaporation on nitrocellulose substrates. Sharp fluctuations of the absorption coefficient, which exactly duplicate fluctuations in the spectral dependence of the quantum yield, were observed in the region of the absorption K edge of the lithium ion over a section extending from ~60 to ~80 ev. The

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ACC NR: AF6018540

large values of the quantum yield (more than 50%) and its correlation with the absorption coefficient indicate that the fundamental role in the photoemission near the absorption edge is played by Auger electrons. The spectral dependence of the reflection coefficient also displays a fine structure near the K edge, and agrees qualitatively with the fine structure of the absorption spectrum. However, no exact correlation is observed between the absorption and reflection coefficients, in view of the complicated relation between them via the refractive index. The authors thank A. M. Rumsh for a discussion of the results and S. A. Gribovskiy and N. N. Ivanchik for help with the reduction and presentation of the results. Orig. art. has: 1 figure and 1 table.

SUB CODE: 20/ SUBM DATE: 03Nov65/ ORIG REF: 008/ OTH REF: 006

Card 2/2

L 00347-67 EMT(1)/EMT(m)/EMT(t)/ETI IJP(c) JW/JD
ACC NR: A16030653 SOURCE CODE: UR/0020/66/169/006/1304/1306

AUTHOR: Zimkina, T. M.; Fomichev, V. A.

ORG: Leningrad State University im. A. A. Zhdanov (Leningradskiy gosudarstvennyy universitet)

TITLE: Absorption spectrum of sulfur hexafluoride in the ultrasoft x-ray region

SOURCE: AN SSSR. Doklady, v. 169, no. 6, 1966, 1304-1306

TOPIC TAGS: sulfur compound, fluoride, x ray spectrum, fine structure, absorption coefficient, absorption edge, photoionization, molecular structure

ABSTRACT: The authors have obtained the absorption spectrum of SF₆ in the region of the LII-III absorption edge. The purpose of the investigation was to explain the nature of the selective maxima in the region of the edge and their connection with the energy structure of the molecule, and to obtain data supporting the theory of photoionization absorption and the applicability of x-ray absorption laws in the ultrasoft region. The absorption coefficients were investigated by a method described in earlier papers (Izv. AN SSSR ser. fiz. v. 27, 324, 1963 and v. 28, 772, 1964). The spectral range investigated was 41 - 73 Å at a pressure 4.5 ± 0.5 mm Hg (ensuring a 30% transmission). The results are presented in the form of a plot of the absorption coefficients vs. energy in the range 170 - 300 ev, and a larger-scale portion of the fine structure (first three absorption bands) between 170 and 205 ev. The distances between the maxima are close to the spin-doublet splitting of the LII and LIII levels

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UDC: 535.343

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ACC NR: AP6030653

of sulfur. The absorption spectrum has an unusual form, anomalous intensity ratios, and no clear-cut absorption edge, but the lack of experimental data on the uv absorption spectrum and of theoretical calculations make the interpretation of the results difficult. It is quite likely that the unusual spectrum can be attributed not only to the energy structure of the molecule but also to the character of the photoionization absorption, since the x-ray absorption regularities obtained by using hydrogen-like wave functions do not hold for ultrasoft x rays. This report was presented by A. A. Lebedev 30 November 1965. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 25Nov65/ ORIG REF: 003/ OTH REF: 004

Card 2/2 m/s